

WHAT IS CLAIMED IS:

1. A muffler for a small internal combustion engine, comprising:
a housing having an inlet and an outlet;
an exhaust flow path defined within said housing, said exhaust flow path including first and second passages and at least one expansion volume, said exhaust flow path dimensioned to provide an exhaust tuning effect to exhaust gasses which pass through said muffler.
2. The muffler of Claim 1, wherein said exhaust flow path is curved through an angle of at least 270° .
3. The muffler of Claim 1, wherein first and second passages are each curved through an angle of at least 180° .
4. The muffler of Claim 1, wherein said first and second passages each have a substantially constant cross-sectional area.
5. The muffler of Claim 1, wherein said exhaust flow path comprises, in succession:
a first expansion volume in fluid communication with said inlet;
said first passage in fluid communication with said first expansion volume;
a second expansion volume in fluid communication with said first passage;
and
said second passage in fluid communication with said second expansion volume and with said outlet.
6. The muffler of Claim 1, wherein said housing further comprises:
a first layer in which a substantial portion of said second passage is disposed, said first layer disposed proximate said inlet; and
a second layer in which a substantial portion of said first passage is disposed, said second layer connected to said first layer and disposed distally from said inlet.

7. The muffler of Claim 1, further comprising a tailpipe in fluid communication with said second passage and with said outlet.
8. The muffler of Claim 1, further comprising at least one resonance chamber.
9. A muffler for a small internal combustion engine, comprising:
a housing having an inlet and an outlet;
an exhaust flow path defined within said housing, said exhaust flow path dimensioned to provide an exhaust tuning effect to exhaust gasses passing through said muffler, said exhaust flow path comprising:
first and second passages, each of said first and second passages being curved through an angle of at least 180° ; and
at least one expansion volume.
10. The muffler of Claim 9, wherein said housing further comprises:
a first layer in which a substantial portion of said second passage is disposed, said first layer disposed proximate said inlet; and
a second layer in which a substantial portion of said first passage is disposed, said second layer connected to said first layer and disposed distally from said inlet.
11. The muffler of Claim 9, wherein said exhaust flow path comprises, in succession:
a first said expansion volume in fluid communication with said inlet;
said first passage in fluid communication with said first expansion volume;
a second expansion volume in fluid communication with said first passage;
and
said second passage in fluid communication with said second expansion volume and with said outlet.
12. The muffler of Claim 9, further comprising a tailpipe in fluid communication with said second passage and with said outlet.
13. The muffler of Claim 9, wherein each of said first and second passages has a substantially constant cross sectional area.

14. The muffler of Claim 9, further comprises at least one resonance chamber.
15. In combination:
a small, single cylinder internal combustion engine having an exhaust port;
and
a muffler attached to said engine, said muffler comprising:
an exhaust flow path defined within said muffler, including an inlet in fluid communication with said exhaust port and an outlet in fluid communication with the atmosphere, said exhaust flow path dimensioned to provide a tuning effect to exhaust gases produced by said engine.
16. The combination of Claim 15, wherein said exhaust flow path is curved through an angle of at least 270° .
17. The combination of Claim 15, wherein said exhaust flow path comprises a first expansion volume, a first passage, a second expansion volume, and a second passage.
18. The combination of Claim 17, wherein each of the first and second passages are curved through an angle of at least 180° .
19. The combination of Claim 17, wherein each of said first and second passages has a substantially constant cross sectional area.
20. The combination of Claim 17, wherein said muffler further comprises:
a first shell in which a substantial portion of said second passage is disposed, said first shell disposed proximate said engine; and
a second shell in which a substantial portion of said first passage is disposed, said second shell connected to said first shell and disposed distally from said engine.
21. The combination of Claim 17, wherein said muffler further comprises a tailpipe in fluid communication with said second passage and with said outlet.

22. The combination of Claim 15, wherein said muffler further comprises at least one resonance chamber therein.

23. A muffler for use with a small internal combustion engine, said muffler comprising:

a first shell including an exhaust inlet and containing a first portion of an exhaust passage, said first portion of said exhaust passage curved through an angle of at least 180°;

a second shell including an exhaust outlet and containing a second portion of said exhaust passage, said second portion of said exhaust passage curved through an angle of at least 180°; and

a partition element disposed between said first and second shells, said partition element substantially separating said first and second portions of said exhaust passages.

24. The muffler of Claim 24, wherein said first and second portions of said exhaust passage each have a substantially constant cross-sectional area.

25. The muffler of Claim 24, further comprising an expansion volume disposed between said first and second portions of said exhaust passage.